

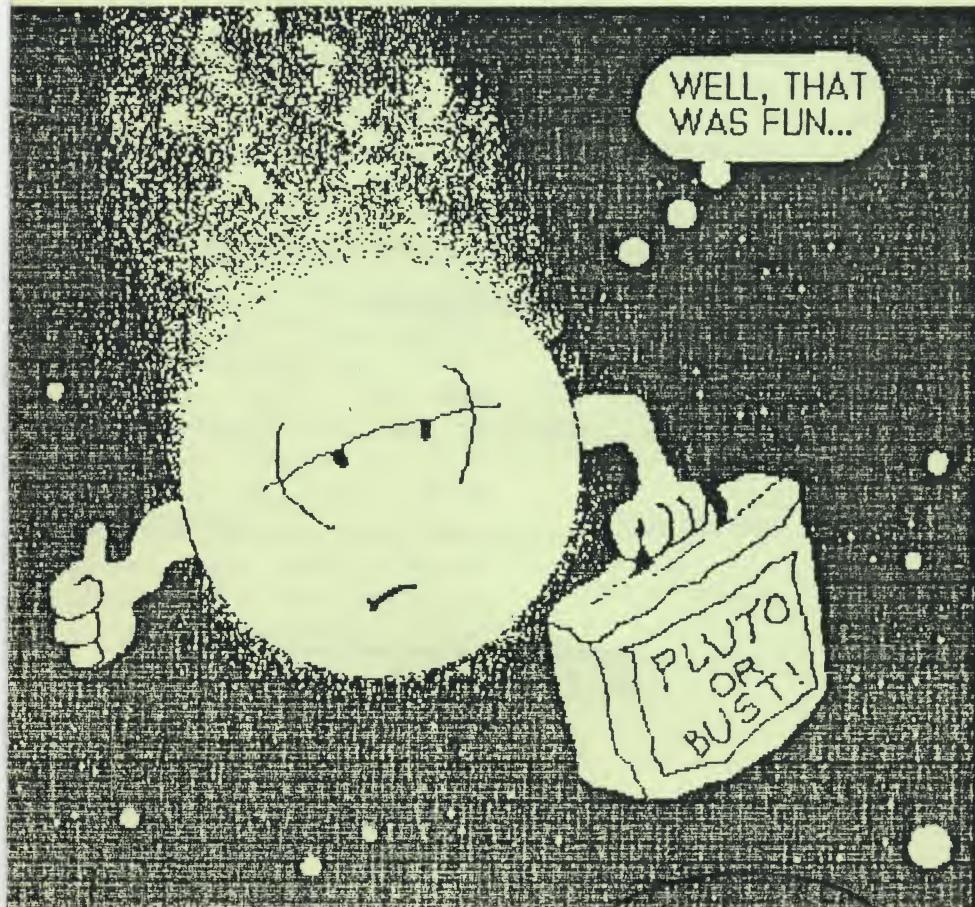
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status

NEWSLETTER

VOLUME 5 · ISSUE 4

MARCH/APRIL 1986



Ass'y Lang
A.W. Mail Labels
DOS 4.0
Genie

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=====

S.T.A.T.U.S. BBS

300/1200

804-468-1096

EDITOR'S FILE

Well, It happened again.

I speak, of course, of the "Dreaded Deadline Doom". Due to a lengthy and peculiar set of circumstances (some avoidable and some not) I found myself faced without a Newsletter when it was time to pull one out of my hat (or where ever it was that I was supposed to pull one from)... The fallout of all this is that you hold in your hands the March/April issue of the Newsletter and my written promise that it won't happen again until the next time it happens.

It comes as almost a contradiction of terms that the recent frenzy of club activity (officer spending limitations, new bylaws/constitution, etc.) failed to produce ONB new candidate for the election of officers held last month. All those that were so vocal and quick to give advice, suddenly became closed mouth and withdrawn when it came time to take the mantle of responsibility.

An interesting phenomenon.

Spring is in the air and with it comes the first reviews of the new 1040ST... It seems to have passed its initial scrutiny with flying colors, having the lowest

cost per megabyte ratio of any computer on the market hasn't seemed to hurt it one bit. Another interesting tidbit is the rumor that some of the major third-party programs developed for the Apple Macintosh are going to be ported over to the Atari machines in the very near future. It seems that success is just about to bloom for everyone's favorite ex-game machine company...

This month's endeavor includes the latest in on-line competition included in Doug Boynton's Telecomputing, more inside information about AtariWriter by Ron Johnson, a rather massive accounting of last months activities in the Minutes by Dick Litchfield, a review of DOS 4.0 by Levin Soule, and (of course) the latest installment of Chris Crawford's Assembly Language Lessons... I hope it was worth the wait.

Assembly Language Course

by Chris Crawford

LESSON SEVEN

INTERRUPTS

We now approach one of the most difficult topics in the world of assembly: interrupts. This is such a messy topic that very few high-level languages make any provision for interrupts. Moreover, interrupts are one of the best ways around to crash your program. Programmers using interrupts must be very careful.

...Interrupts are one of the best ways around to crash your program...

The standard way to handle this problem is with a technique called polling. Your program runs out every now and then to check whether the high-priority situation has arisen. If it has, then the program responds to it. If not, it returns to its original work.

The problem with polling arises from the choice of polling interval. If you choose a long (infrequent) polling interval, then you may not respond to a demand quickly enough. If you choose a short (frequent) polling interval,

then you will respond quickly to the demand, but you will never have any time for your computations.

You may think this type of situation is infrequent, but I can list quite a few situations where this is fairly common. Most I/O operations involve short bursts of computation at infrequent intervals, but they must be attended to on a tight schedule. For example, talking to a cassette deck involves very little real work from the CPU, but it must be done according to a precise schedule.

Even a disk drive is very slow by the standards of a 6502. Or how about keyboard response? When the human operator presses a button, he wants to see response NOW, not two or three seconds from now. Yet he could press that button at any time. So should your program sit on its hands waiting for a keypress or should it ignore the human operator?

The solution to all these problems is the interrupt. An interrupt is rather like a subroutine that can be called by hardware action. There's a wire going into the 6502 called IRQ (Interrupt Request). That wire is normally quiet. But when something important happens, like a keypress,

the computer's hardware puts a signal on that wire to interrupt the 6502.

Here's what happens next:

The 6502 is busy running a program, but when it gets the interrupt signal it first checks the 1-bit (Interrupt) in the processor status register. If the 1-bit is set, it decides to ignore the interrupt, but if it is clear, it proceeds to the next step. It saves the processor status register and current value of the program counter onto the stack.

Then it loads the program counter with the address stored at a special place in ROM -- it's either \$FFFC or \$FFFF, I can never get it straight. It thus jumps to the address specified in ROM. It expects to find an interrupt service routine there, which presumably will deal with the keypress in the appropriate manner.

This routine will probably start by pushing A, X, and Y into stack to preserve them. When done, the routine will then pull them off the stack and execute an RTI instruction, which causes the 6502 to pull the processor status register off stack, and then pull the program counter off and resume operating.

The important thing about this rather complex sequence is that it allows the 6502 to drop whatever it is doing, service the interrupt, and then return to its earlier functioning without skipping a beat. The overriding goal of all of this is to be absolutely certain that, when the 6502 returns from the interrupt, it returns in EXACTLY the same state that it was in when the interrupt hit. Otherwise, all sorts of horrible, untraceable bugs would result.

Imagine -- you're in the middle of some huge computation when an interrupt strikes. It subtly changes some very tiny parameter, just enough to insure that when the computation resumes, it will be slightly incorrect. When you try to find the bug, you discover that sometimes the code works perfectly and sometimes it fouls up, and you can't figure out why it should do that. Very bad bussines!

Moral: interrupts must follow a very tight discipline if they are to be of any utility.

Now let's get into some of the technical gore involving interrupts. First, there are two interrupts on the 6502. They are called IRQ (Interrupt Request) and NMI (Non-Maskable Interrupts).

The idea is that the IRQ can be masked out by setting the 1-bit with the SBI instruction. Then you use the CLI instruction to clear 1-bit. Thus, IRQ is used for interrupts that have second priority.

NMI is reserved for first-priority interrupts, it is not maskable. However, the designers of the Atari computers routed IRQ and NMI through the POKEY and ANT chips respectively. And they put mask registers into these chips. Thus, the NMI can be masked out after all... but only on Atari computers. Other 6502 based computers don't allow that.

The NMI and IRQ interrupts have a separate interrupt vector in ROM, so they can be treated differently. These vectors route the interrupts to the OS, but the OS is smart enough to route interrupt flow through some RAM locations. This means that you can intercept these two interrupts by altering the contents of the RAM-vectors. (I won't list them here, there a number of them for different situations.)

You must be careful, though, when altering such a RAM vector. What happens if an interrupt strikes after you have changed one byte of the address and before you changed the other byte? The

6502 will fly off into never-never land and you have crashed. Sure, it's unlikely, but good programmers don't count on luck to make their programs work. You have to guarantee that the interrupt won't occur before you mess with vector. Use SBTBV from the OS.

The two primary applications of interrupts with the Atari computers are for VBI's (Vertical Blank Interrupts) and DLIs (Display List Interrupts). These are very involved topics covered quite thoroughly in the book *De Re Atari*. VBI's are often used for animation control, input handling, and other time-critical operations. For example, the entire player I/O of my game *Eastern Front (1941)* is handled by VBI's. The scrolling, giving of orders, identifying units, and so forth is all done by VBI's. The mainline routine meanwhile figures the artificial intelligence.

DLIs are used to enhance the graphics on the screen. You can get more colors, more use out of players, more scrolling, and more character sets with proper use of DLIs. Again consult *De Re Atari* for a full treatment of this complex subject.

Interrupts are extremely difficult to debug because they tend to crash the system when they

fall. You must exercise the strictest discipline in writing interrupt code. Timing problems, seldom of concern in mainline programming, can become critical with interrupts.

What happens, for example, if you interrupt service routine takes so much execution time that more interrupts arrive that you can service? Bad things, I assure you. You must always ask yourself, what happens if an interrupt strikes here? Or there? You must assume that an interrupt will strike at the worst possible time, and write your code to deal with that possibility.

The most important discipline to follow in writing interrupt service routines is this: keep your interrupt database separate from your mainline database. If the ISR can freely write to variables used by the mainline, you will certainly have problems when the mainline attempts to work with variables whose values have changed in unpredictable ways. You must set up ironclad rules about when ISR can mess with variables used by mainline, what it can do to them, and how it notifies the mainline routines that it has indeed altered them.

Approach interrupts with extreme caution. They are very powerful, but every programmer can tell you horror stories about debugging interrupt routines.

ATARIWRITER MAILING LABELS

By Ron Johnson

THE INTRODUCTION

The article by "Rogue" from the S.L.C.C. Journal of September 1984, reprinted in S.T.A.T.U.S. Newsletter Vol. 3 issue 10, for Oct., 1985, makes it easy to use the full power of an Epson printer with ATARIWRITER. However, the APX printer-driver or other printer-drivers cannot be used when total control of the printer with imbedded control codes is being used. Either rename it to other than AUTORUN.SYS or use a disk with only DOS.SYS. "Rogue" did not make this clear in the article. Note: ATARIWRITER PLUS appears to have corrected this problem, but that's another article.

The control codes as listed in the various Epson Manuals cannot be sent directly via the <esc> or CHR\$(xx) commands through ATARIWRITER. The process, as explained by "Rogue" and others, is through the use of [CTRL-O]. This tells ATARIWRITER to read the next input as a control code to send to the printer without actually printing it on the paper. [CTRL-O] is usually followed by the decimal equivalent of the <esc> command, which is 27. Next, use [CTRL-O]

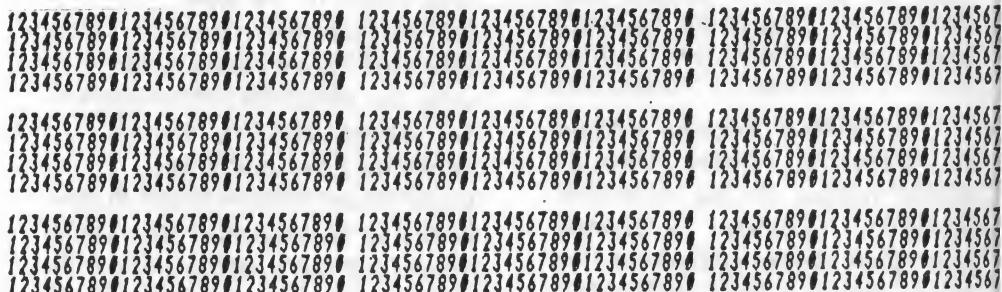
again, and the decimal equivalent of the required character or function specified by Epson. For example, the Epson control code for superscript is `<esc> "S1"`, which translates to `[CTRL-O]27[CTRL-O]83[CTRL-O]49`. Do not leave any spaces between the parts of the command. The control codes may be embedded in your text anywhere without hurting the spacing when printed. Remember that `<esc> "0"`

Other Epson's and compatibles may not have all the modes, etc., listed, but all will use the `[CTRL-O]` style.

The Label

Unusual label sizes and shapes cannot be made using the standard designs I mentioned in the December, 1985, issue of STATUS Newsletter. The printer-driver program

Figure 1: The rough layout



`[CTRL-O]27[CTRL-O]64` is the printer system reset.

THE CORRECTION

The reference chart for ATARIWRIT8R and Epson printers using control codes (no printer-driver program), by "Rogue as reprinted in STATUS newsletter, contains numerous errors and omissions. I have reproduced the chart, with corrections and additions, based on the FX-80 printer (with no errors, I hope!).

must be removed/disabled and the control-code method used.

As before, the size of the label must be determined and compared to the amount of text (number of lines) to be placed on the label. A label layout using the size letters of interest should again be made. Figure 1 shows the label layout with double-strike, compressed italics with line spacing of $24/216"$ ($n=24$). The line spacing $n/216"$ command was used here. The size of the label

REFERENCE CHART
FOR EPSON FX-80 PRINTER CONTROL CODES
BY FUNCTION FOR ATARIWRITER

Print Width Commands

Mode	Code
Elite:	ON: [CTRL-0]27[CTRL-0]77, OFF: [CTRL-0]27[CTRL-0]80
Compressed:	ON: [CTRL-0]15, OFF: [CTRL-0]18
Expanded:	ON: [CTRL-0]27[CTRL-0]87[CTRL-0]49
(double width)	OFF: [CTRL-0]27[CTRL-0]87[CTRL-0]48

Print Quality Commands

Emphasized:	ON: [CTRL-0]27[CTRL-0]69, OFF: [CTRL-0]27[CTRL-0]70
Double-Strike:	ON: [CTRL-0]27[CTRL-0]71, OFF: [CTRL-0]27[CTRL-0]72
Superscript:	ON: [CTRL-0]27[CTRL-0]83[CTRL-0]49
	OFF: [CTRL-0]27[CTRL-0]84
Subscript:	ON: [CTRL-0]27[CTRL-0]83[CTRL-0]48
	OFF: [CTRL-0]27[CTRL-0]84
Proportional:	ON: [CTRL-0]27[CTRL-0]112[CTRL-0]49
	OFF: [CTRL-0]27[CTRL-0]112[CTRL-0]48
Underline:	ON: [CTRL-0]27[CTRL-0]45[CTRL-0]49
	OFF: [CTRL-0]27[CTRL-0]45[CTRL-0]48
Italics:	ON: [CTRL-0]27[CTRL-0]52, OFF: [CTRL-0]27[CTRL-0]53

Selecting Print Modes

Master Print Select ON: [CTRL-0]27[CTRL-0]33[CTRL-0]n
(where n is from reference chart in Epson manual)
Master Reset: OFF: [CTRL-0]27[CTRL-0]64

Paper Feed Commands

Line Feed:	[CTRL-0]10
Line Spacing 1/8":	[CTRL-0]27[CTRL-0]48
Line Spacing 7/72":	[CTRL-0]27[CTRL-0]49
Line Spacing 1/6":	[CTRL-0]27[CTRL-0]50
(default mode)	
Line Spacing n/72":	[CTRL-0]27[CTRL-0]65[CTRL-0]n
Line Spacing n/216":	[CTRL-0]27[CTRL-0]51[CTRL-0]n

allows for up to four lines of text and one space line for a page size of five lines (Y=10). The labels are three across and measure 1/2" by 1 23/32". There is a 1/16" space between labels. There are seven rows of labels on each sheet, so they have to be taped to the pin feed paper to print! These labels are Avery self-adhesive removable labels, Model S-828, nominally 1/2" x 1 3/4".

By trial and error, I determined that tabs were needed at columns 6, 37, and 68 to give the spacing for the three labels across. This translates to setting tabs at columns 1, 6, and 32 due to the 40 column screen width and wrap around feature of ATARIWRITER.

Figure 2 shows my label (only three of the full seven rows per label to save space).

The format lines at the top of the file are listed here for your information (underline means use [CTRL] key at same time). Don't have a return after the final control code or the return will be considered as a blank line in the first label!

B2 D4 G1 I5 J0 L0 R132
027051024027071015027052

Figure 2: The smooth label

Ronald E. Johnson
4715 Newport Avenue
Norfolk, VA 23508

DOS 4.0 - A REVIEW

By Levin Soule'

HUNTSVILLE ATARI USERS GROUP

MARCH, 1986

In the January newsletter I noted that I had ordered DOS 4.0 from the ANTIC catalog and would review it as soon as it arrived. The main reason I wanted to try it was the claim that it was about TWICE as fast as DOS 2.0 and THREE times faster than DOS 2.5. I read the instructions that are included as a file on the disk and proceeded to put it to the stop watch test.

In structure, DOS 4.0 is a bit of a cross between DOS 3.0 and DOS 2.0...

I tested it with a large two disk random access program. From switch on to menu display takes 40 seconds using DOS 2.0. DOS 2.5 takes 42 seconds to load and run the same program. DOS 4.0 took the same 40 seconds as DOS 2.0 to get the menu on the screen. DOS 2.0 and 2.5 use a pointer file to locate the sector and byte of any random access record in your data file. This gives less than one second access to any record on the disk. I have yet to find a DOS or computer using 5 1/4" disks that is any faster than Atari's Note and Point system. The file can be 88+K

bytes in DOS 2.0, 125+K bytes in DOS 2.5 and about 180K bytes in true double density.

DOS 4.0 uses a relative position structure as does SpartaDOS. However, DOS 4.0 is limited to random access files that are, according to the instructions, no longer than 65,536 bytes, while SpartaDOS can read a file that is 16,777,216 bytes long. This 65,536 byte random access file length limit was one of the bugs in the early copies of DOS 3.0, which was later corrected. However, there is a big plus for DOS 4.0 here. Within the short file length limits, unlike SpartaDOS, DOS 4.0 can access records just as fast as DOS 2.0 or 2.5 and like SpartaDOS you can COPY a random access file and don't care what sectors it goes into.

In structure, DOS 4.0 is a bit of a cross between DOS 3.0 and DOS 2.0. But in addition it will work with double density and double sided disks, as will SpartaDOS. It looks like you should be able to convert a single density random file to double density and have it work fine! While you save the pointer file RAM, you don't gain the other almost 4K of RAM as with SpartaDOS. DOS 2.0, 2.5 and 3.0 files all have to be converted to DOS 4.0 with a conversion program before they can

be read by DOS 4.0. Three of the DOS 2.0 files I converted to DOS 4.0 only take ONE sector on a DOS 2.0 or 2.5 disk, but all three take SIX sectors each on a DOS 4.0 disk. That is an improvement over eight sectors each they would require if in DOS 3.0. I did not see any indication that there was a way to convert back from DOS 4.0 or convert to any other DOS.

The last thing I tried was a dup with both SD disks almost full. Both DOS 2.0 and 4.0 took the same 37 seconds to format a SD disk on the same unmodified 1050 drive. The DOS 2.0 disk with 1 sector free took 2 minutes, 52 seconds to duplicate the disk. The DOS 4.0 disk with 24 free sectors took 3 minutes and 37 seconds to duplicate the disk, which is about 30% SLOWER than DOS 2.0. If you compare DOS 4.0 with write verify turned off, to DOS 2.0 or DOS 2.5 with write verify turned on you would get a relative speed increase. However, write verify can be turned off with both DOS 2.0 and 2.5, so where is this claim speed increase?

As noted in the December newsletter, serial bus speed is 19.2K baud. DOS 2.0 and 2.5 load programs at an average of 12K baud. Any DOS that claims to double or

triple the speed of DOS 2.0 or 2.5 would have to exceed current serial bus speed. I have yet to hear or read of any way of doing that. Even IDC is now only claiming the Doubler and SpartaDOS will run faster and not 2 or 3 times faster. A 60% increase would put it at the 19.2K baud limit, which also apply to the HAPPY and the new 1050 Duplicator.

I stopped playing with DOS 4.0 at this point as I did not see where it could do anything for me at this time that SpartaDOS could not do better. However, If I develope a program that makes use of a lot of short file, then DOS 4.0 could come in very handy. I did not try this, but I can't see any reason why it would not work on either DOS 4.0 or SpartaDOS. If you wanted to start to read a random access record at the middle of the record, you would not have to input the first half of the record first. Just add the offset to your record start position calculation. It should speed inputs on real long individual records as less information would have to pass through the serial bus.

All tests were made using two unmodified 1050 drives. The ANTIC public domain library ad says the old Atari spent over \$100,000 developing DOS 4.0, but the new Atari gave it back to the author.

I wonder why? I will place DOS 4.0 (PD) and Heavy Metal Art (PD in the club library. The DOS 4.0 disk has several files that I did not try. So it may have some other features of value to other users, and needs to be tested further by someone else.

TELECOMPUTING

By Doug Boynton

GBnie. Watch out, Compu-Serve. General Electric may have your number.

CompuServe, that giant information service owned by H & R Block, based in Columbus, Ohio, may have some serious competition here.

As legend goes, CompuServe (CIS) got its start because the Block company was interested in making money from its mainframe computers during non-business hours. General Electric apparently has the same idea with its MARK III business network.

GBnie is the result; a sort of "no frills" approach. Forget the latest news from the Associated Press, weather maps of the universe, and hotel reservations in West Nowhere, South Dakota. GBnie has zeroed in on the most

popular of the CIS services, and as the saying goes, passed the savings on to you.

Computer world news, on-line games, CB simulation, machine-specific SIGs...they're all there on GBnie. The Atari SIG (they're called "Roundtables" on GBnie) sported nearly 300 downloads for the Atari. Many of them were not duplicates of programs you'd be likely to find anywhere else. (A terminal program in PASCAL?)

The best part is price, especially if you're a 1200-baud person. CompuServe saps you at the rate of \$6.25/hour for a system that is so overloaded and sluggish as to be useless at some hours of the day...\$12.75 for 1200-baud service. GBnie's rate is \$5.00/hour for 300 OR 1200-baud service. And the system sips right along, so you get even more data in the same amount of time.

Don't get me wrong. CompuServe runs a fine system. I'm not ready to pitch my copy of TSCOPB out the window yet. It's just that they haven't been...well, humble enough. They have an attitude sort of like the phone company. "You don't like our service...take it to the OTHER company...har, har, har!"

Now you can.

It sort of explains all those CIS commercials you've seen on TV, doesn't it. I'll bet CIS Customer Service suddenly gets a lot more responsive, as well. Who knows, the price might even drop...but maybe I'm getting ahead of myself.

Call for details on GBnie. The number is 1-800-638-9636. They'll tell you how to take a free tour and sign up. I'd suggest the \$9.95 manual before you get too far. It'll probably save you on-line time in the long run.

-0-

OTHER ITEMS: Tom Dekker's North End BBS (491-1437) is back up at 1200 baud. Seems he's solved his hardware/software problems with a patch to the FoReM program from Matthew Singer.

Got a preview of Don Pemberton's "Down Under" section on the revamped 007 BBS. It looks like if you want access to the massive amount of storage space he'll have available, it'll cost you \$7.00/year. That also gives you unlimited time on the system, according to Don. Should be interesting to see what happens when someone tries to download every file in a single call. We could be waiting until July to get on 007!

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STATUS Minutes

BUSINBSS MEETING

February 3, 1986

President Gene Rodrigues opened the meeting by welcoming the members and visitors. Status officers present were then recognized.

*

Regular reports were dispensed with to allow time for extensive old and new business.

*

OLD BUSINESS: The Executive Committee meet on January 11th and 25th and action was taken on the following items:

BBS Advertising - decided that there would be no commercial advertising on the Bulletin Board. Personal items for sale will continue to be accepted. Personal notes to let other members know of available bargains are acceptable.

Atari 400 - accepted a Atari 400 computer (48K) donated by Stan Harrison. It was decided that the computer should be used on the club BBS and was delivered to SYSOP Doug Boynton.

BBS/Compuserve - BBS operator will be compensated for Compuserve

time used on behalf of the club. A log is to be kept and available for review. BBS Sysop will receive a subscription to "Bulletin Board Systems" paid for by the club. The cost is \$26.00 per year.

Non-Profit Status - Based on the findings of Ron Johnson's investigations it was decided to abandon the idea of attaining non-profit status.

Membership Cards - New membership cards will be printed and distributed by the Membership Chairman.

Welcome Package - Activities Chairman will expedite the update of the package.

Treasury Purchases - Proposed a package of limits on purchases of club sale items. The proposed limits were:

1. Treasurer may maintain a \$200 inventory of regularly stocked items.
2. Any special order item costing over \$10 will require a 50% deposit from the member.
3. Special "Opportunity" purchases require the approval of two other officers.

Treasurer's Report - Treasurer's report will be read at each

Business meeting and will reflect balances as of the end of the previous month.

Swap Night - Swap night will be at the General Meeting (second). Only PUBLIC DOMAIN programs may be swapped. Violators shall have all club privileges suspended.

Don Soward motioned the Executive Committee's proposal on treasury purchase limits be adopted as read. Betty Larkin seconded and the motion then carried.

Doug Boynton motioned the club donate the Atari 800XL to the Baylake Pines School and purchase a new Atari 130XB. Jim Parks seconded and the motion then carried.

*

NBW BUSINESS: President Gene Rodrigues solicited volunteers for a Nominating Committee for the annual elections. Volunteers were: Gene Rodrigues III, Skip Poole, John Whitehead, Betty Larkin, and Buck Maddrey. Elections will be held at the March Business Meeting.

Dick Litchfield read a written motion from Bob Bure. Bob moved the club:

(1) Establish a scholarship fund initially in the amount of \$200

to be awarded to a student seeking a B.S. degree in a computer related field

(2) Establish a Scholarship Committee to organize and carry out the details required to award a scholarship.

Having no second, a motion was received from Hal McGinnis to table part 1 of the scholarship motion. Doug Boynton seconded and the motion carried. Item tabled.

Doug Boynton moved a Scholarship Committee be established to investigate the feasibility and report to the membership. Skip Poole seconded and the motion carried. Bob Bure was appointed chairman and volunteers were solicited. Volunteer members were Ron Johnson and Jim Parks.

The remainder of the meeting was devoted to revision of the STATUS Constitution. The Executive Committee's proposed constitution revision was read and discussed. Some sections were deleted and some were revised and approved by member vote. A motion to present the revised proposal to the membership for ratification was seconded and carried. Action item to Secretary Dick Litchfield.

The meeting was then adjourned.

GENERAL MEETING
FEBRUARY 17, 1986

President Gene Rodrigues opened the meeting by welcoming all members and visitors. Status officers present were then recognised.

BUSINESS: Due to an urgent situation requiring a reply, one item of business was presented. Bob Bure, chairman of the Scholarship Committee, presented the results of the committee meeting and then withdrew his motion (tabled) to establish a scholarship fund in the amount of \$200. He then read a motion from the committee. The committee moved "To establish a special award of \$200 to be awarded to a senior division participant of the 35th Annual Tidewater Science Congress Fair. The award shall be made to a student who demonstrates the best use of a computer in a science or engineering project." The motion was seconded by Betty Larkin and carried. Action item to Scholarship Committee and Treasurer.

SEMINARS and DEMONSTRATIONS:

Jeff Falkenhain and Bill Fielder demonstrated the Atari 520ST. The demonstration included "TOS", "Degas", "Neo-Chrome" and games.

J.C. Petty demonstrated "Games Computers Play" (GCP), an online source for games and downloads via a modem and special communications software.

Ron Johnson held another in his continuing seminars on Atariwriter.

ANNOUNCEMENTS: The following programs have been added to the library: "Halley Patrol", "Space Base" and "JAG Printshop Library #2".

The meeting was then adjourned.

** Dick Litchfield **
Secretary, STATUS

President's Column

First, I would like to take this opportunity to thank you all for your vote during our recent elections, all of our officer's ran unopposed. And now, a call for your assistance in making this group something you can be proud of. We need inputs for our newsletter, the formation of more

SIG's (so far we have one started) and we need to get more participation from the rest of the group, I'm sure that there are more of you out there with the same interest. For your contribution to the Newsletter we prefer that your contribution be in Atariwriter, but we will take them in any form: except smoke signals... we have to draw the line somewhere.

On the Political Front... Our Constitution is still unapproved. We don't have the two thirds required for approval, so pass the word to your group-mates to send in their vote.

On the lighter side... Don't use words like "HBX", "DUMP" or "REQISTBRS" in ordinary conversation - unless you're talking about witches, sanitary land fills or hot-air heating systems...

Just finished reading the preliminary review on the 1040ST by the folks at BYTB magazine in the March 86 issue, and so far it looks like we finally have something else to crow about, they plan to do a more in-depth review, in a latter issue. There is a hint that 4 MEGS are possible, with a little modification here and there, it sounds like it's a challenge for those of you who go for taking the Atari to the limit. (Our RAM SIG should be looking at the possibilities...)

We are starting to see the beginnings of an ST SIG of sorts, we have a total of about four ST owners in the group, and I, for one, would like to see them start in that direction, an ST SIG would be welcomed.

It's up to you folks... Let's not forget why we are an Atari User's Group, let's get together on this and other programs within the group... We need your Support...

On the literary front... This month, we have a review on the ATARI DOS 4.0 by Levin Soule' of the Huntsville Atari Users Group. If you are a collector of DOSes, you can add this one to your collection (I still have my copy of DOS 3.0). Our very own Ron Johnson continues his look at Atariwriter, with some more interesting functions you can perform with your program and an EPSON FX printer.

On Hardware... Jim Parks will continue to provide us with some interesting do-it-yourself projects, along with J. C. Petty, Willie Niepraschk and Dick Litchfield, these are the folks behind the RAM SIG, a combination of Techies and Trons who are continuing to build colossal 8 bit machines (800/XL, 130XB etc.)...

Guess I'll call it quits for now... so until next time...Keep on Hacking...

S.T.A.T.U.S.

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MEETINGS: S.T.A.T.U.S. meetings are held on the first and third Monday of each month at the Baylake Pines Private School, 2204 Treasure Island Dr., in Virginia Beach. at 6:30 p.m. All interested parties are welcome to attend.

NEWSLETTER ARTICLES:

Submitted articles are preferred on disk text files, but will be greatly accepted on hard copy (including handwriting) if you do not have a disc drive. If you have a modem, you can upload your articles to the Editor by calling 499-6021. Articles may be submitted anytime, but will probably not make that month's newsletter if submitted less than one week before the regular meeting date.

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